

Form 169 (Modified)		Atty Docket No.:	Serial No.:
 Information Disclosure Statement by Applicant Use Several Sheets if Necessary		IMM1P007A	08/461,170
		Applicant: Louis B. Rosenberg et al.	
		Filing Date: June 5, 1995	Group: 2609

U.S. Patent Documents

Examiner Initial	No.	Patent No.	Date	Patentee	Class	Sub-class	Filing Date
JB	A	5,143,505	09/01/92	Burdea et al.	414	5	02/26/91
JB	B	4,800,721	01/31/89	Cemenska et al.	60	393	02/13/87
JB	C	4,907,970	03/13/90	Meenen, Jr.	434	45	03/30/88
JB	D	4,907,973	03/13/90	Hon	434	262	11/14/88
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Foreign Patent or Published Foreign Patent Application

Examiner Initial	No.	Document No.	Publication Date	Country or Patent Office	Class	Sub-class	Translation	
							Yes	No
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Other Documents

Examiner Initial	No.	Author, Title, Date, Place (e.g. Journal) of Publication
JB	1	Jacobsen, S.C. et al., "High Performance, High Dexterity, Force Reflective Teleoperator II," ANS Topical Meeting on Robotics & Remote Systems," Albuquerque, New Mexico February 24-27, 1991, pp. 1-10.
JB	2	Kotoku, Tetsuo et al., "Environment Modeling for the Interactive Display (EMID) Used in Telerobotic Systems," IEEE November 3-5, 1991, pp. 99-1004.
JB	3	Bejczy, Antal K., "The Phantom Robot: Predictive Displays for Teleoperation with Time Delay," IEEE 1990, pp. 546-550.

Examiner: Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.



Form 1449 (Modified)

Information Disclosure
Statement By Applicant

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U.S. Patent Documents

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Other Documents

Examiner Initial	No.	Author, Title, Date, Place (e.g. Journal) of Publication
JB	4	Buttolo, Pietro et al., "Pen-Based Force Display for Precision Manipulation in Virtual Environments," IEEE March 1995, pp. 1-8.
JB	5	Tan, Hong Z. et al., "Human Factors for the Design of Force-Reflecting Haptic Interfaces," Tan, Srinivasan, Eberman, & Chang, ASME WAM 1994, pp. 1-11.
JB	6	Ellis, R.E. et al., "Design and Evaluation of a High-Performance Prototype Planar Haptic Interface," ASME December 3, 1993, DSC-Vol. 49, pp. 55-64.
Examiner	Jeffrey A. Brien	Date Considered 4/29/96

Examiner: Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.



Form N-9 (Modified)

**Information Disclosure
Statement By Applicant**

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Atty Docket No.: IMM1P007A
Applicant: Louis B. Rosenberg et al.
Filing Date: June 5, 1995Serial No.: 08/461,170
Group: 2609**U.S. Patent Documents**

Examiner Initial	No.	Patent No.	Date	Patentee	Class	Sub-class	Filing Date
	A						
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Foreign Patent or Published Foreign Patent Application

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Other Documents

Examiner Initial	No.	Author, Title, Date, Place (e.g. Journal) of Publication
JB	7	Adelstein Bernard D. et al., "A High Performance Two Degree-of-Freedom Kinesthetic Interface," Massachusetts Institute of Technology 1992, pp. 108-112.
JB	8	Colgate J. Edward et al., "Implementation of Stiff Virtual Walls in Force-Reflecting Interfaces, September 22, 1993.
JB	9	Iwata, Hiroo et al, "Volume Haptization, IEEE 1993, pp. 16-18.

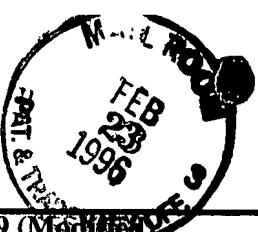
Examiner:

Jeffrey A. Brier

Date Considered

4/29/96

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Form 1449 (Medium)		Atty Docket No.: IMM1P007A	Serial No.: 08/461,170
Information Disclosure Statement By Applicant		Applicant: Louis B. Rosenberg et al.	
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U.S. Patent Documents

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Other Documents

Examiner Initial	No.	Author, Title, Date, Place (e.g. Journal) of Publication
JB	10	Fischer, Patrick et al., "Specification and Design of Input Devices for Teleoperation," 1990.
JB	11	Burdea, Grigore et al., "Distributed Virtual Force Feedback," IEEE, May 2, 1993, pp. 25-44.
JB	12	Rosenberg, Louis B., "The Use of Virtual Fixtures as Perceptual Overlays to Enhance Operator Performance in Remote Environments," Air Force Material Command, September 1992, pp. 1-42.
Examiner	Date Considered 4/29/96	

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Form 1449 (Modified) Information Disclosure Statement By Applicant (Use Several Sheets if Necessary)	
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Examiner Initial	No.	Author, Title, Date, Place (e.g. Journal) of Publication		
<i>JB</i>	13	Rosenberg, Louis B., "The Use of Virtual Fixtures to Enhance Operator Performance in Time Delayed Teleoperation", Crew Systems Directorate Biodynamics and Biocommunications Division Wright-Patterson, Air Force Material Command, March 1993, pp. 1-45.		
<i>JB</i>	14	Burdea, Grigore et al., "A Portable Dextrous Master with Force Feedback," <u>Presence: Teleoperators and Virtual Environments</u> , MIT Press, June 1991.		
<i>JB</i>	15	Rosenberg, Louis B. et al., "Perceptual Decomposition of Virtual Haptic Surfaces," IEEE, October 1993.		
Examiner	<i>Jeffrey A. Biner</i>	Date Considered	<i>4/29/96</i>	

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Other Documents

Examiner Initial	No.	Author, Title, Date, Place (e.g. Journal) of Publication
<i>JB</i>	16	Rosenberg, Louis B., "Virtual Fixtures as Tools to Enhance Operator Performance in Telepresence Environments," SPIE Telemanipulator Technology, 1993.
<i>JB</i>	17	Rosenberg, Louis B., "Virtual Haptic Overlays Enhance Performance in Telepresence Tasks," SPIE 1994.
<i>JB</i>	18	Burdea, Grigore et al., "Dextrous Telerobotics with Force Feedback-An Overview," Robotica 1991, Vol. 9.
Examiner	<i>Jeffrey A. Bries</i>	Date Considered <i>4/29/96</i>

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Form 1449 (Mod. 1-20-84)	
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Other Documents

Examiner Initial	No.	Author, Title, Date, Place (e.g. Journal) of Publication
JB	19	Colgate, J. Edward et al., "Implementation of Stiff Virtual Walls in Force-Reflecting Interfaces," 1993, pp. 1-9.
JB	20	Yamakita, M. et al., "Tele-Virtual Reality of Dynamic Mechanical Model, IEEE July 7-10, 1992, pp. 1103-1110.
JB	21	Adlestein, Bernard D. et al., "Design and Implementation of a Force Reflecting Manipulandum for Manual Control Research," 1992, pp. 1-24.
Examiner	Jeffrey A. Brier	Date Considered 4/29/96

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JB	22	Ouh-young, Ming et al., "Force Display Performs Better than Visual Display in a Simple 6-D Docking Task," IEEE 1989, pp. 1462-1466.
JB	23	Kim, Won S. et al., "Graphics Displays for Operator Aid in Telemanipulation," IEEE 1991, pp. 1059-1067.
JB	24	Hannaford, Blake et al., "Performance Evaluation of a Six-Axis Generalized Force-Reflecting Teleoperator," IEEE May/June 1991, Vol. 21, No. 3, pp. 620-633..

Examiner

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Examiner Initial	No.	Author, Title, Date, Place (e.g. Journal) of Publication
<i>JB</i>	25	Kim, Won S. et al., "A Teleoperation Training Simulator with Visual and Kinesthetic Force Virtual Reality", Human Vision, Visual Proceedings, Proc. SPIE 1666, San Jose, CA, Feb. 1992.
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Examiner	<i>Jeffrey A. Brier</i>	Date Considered <i>4/29/96</i>

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